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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,958	11/13/2001	Shinichi Shima	862.C2434	6387

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EXAMINER

NGUYEN, HUNG

ART UNIT PAPER NUMBER

2851

DATE MAILED: 01/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,958

Applicant(s)

SHIMA, SHINICHI

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/13/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1-3, 5, 8, 9, 40, the recitation of "wherein a pattern projection region for projecting...is off-centered ...said projection optical system" is ambiguous and indefinite. It is not clearly understood whether or not the "the projection center of the projection optical system is the optical axis of the projection optical system.

As to claim 2, the wherein clause of wherein said apparatusto the center of the pattern projection region" is indefinite and vague. The meaning of "an extension of a straight line extending from the projection center of said projection optical system on the substrate to the center of the pattern projection region" is not clearly understood.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b)

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only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 1-2, 5-7, 10, 12, 17, 19, 22, 24, 27, 29, 32-33, and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishi et al (U.S.Pat. 6,414,743).

As best the claimed subject matters are understood (see rejection under 35 U.S.C. 112, second paragraph, supra). Claims are anticipated by references.

With respect to claims 1-2, 5-7, 10, 12, 17, 19, 22, 24, 27, 29, 32-33 and 40, Nishi discloses an exposure apparatus and method comprising all of the limitations of the instant claims: an illumination optical system (503-511) for illuminating a reticle (R) with illumination light from an excimer laser light source (502); a projection optical system (PL) for projecting a predetermined pattern formed on the reticle onto a substrate (W); a position detecting system (528) for detecting an alignment mark on the substrate (see col.61, lines 34-36); a mask position detection system (519) for positioning the reticle; wherein exposure region on the substrate (516) is formed "at the position offset toward the side of the alignment sensor (528) from the projection center of the projection optical system" (see fig.29).

Nishi further disclose that the projection optical system can be catadioptric optical system/reflection-refraction optical system (see fig.30 for example) and the exposure apparatus is a scanning type exposure apparatus (see claim 19 of Nishi).

5. Claims 1-2, 5-7, 10, 12, 17, 19, 22, 24, 27, 29, 32-33, and 40 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Ota (U.S.Pat. 6,406,820).

With respect to claims 1-2, 5-7, 10, 12, 17, 19, 22, 24, 27, 29, 32-33, and 40, Ota discloses an exposure apparatus and method comprising all of the limitations of the instant

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claims including alignment microscope (ALG) for detecting an alignment mark formed on a substrate and exposure region on the substrate is formed "at the position offset toward the side of the alignment sensor (528) from the projection center of the projection optical system" (see fig. 1)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-4, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al (U.S.Pat. 6,414,743)/or Ota (U.S.Pat. 6,485,153) in view of Miyai et al (U.S.Pat. 5,825,470).

With respect to claims 3-4, 23, Nishi/or Ota discloses substantially all basic features of the instant claims except for a substrate transportation system. Miyai teaches an exposure apparatus having a substrate transport system (see fig. 10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the substrate transport system as taught by Miyai into the exposure system of Nishi/or Ota for transporting the substrate from the substrate library to the substrate stage.

8. Claims 3-4, 8-9, 11, 13-16, 18, 20-21, 23, 25-26, 28-31 are rejected under 35 U.S.C. 103(a) over Nishi et al (U.S.Pat. 6,414,743)/or Ota (U.S.Pat. 6,485,153) in view of Mouri (U.S.Pat. 6,320,646).

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As to claims 3-4, 8-9, 11, 13-16, 18, 20-21, 23, 25-26, 28-31, Nishi/or Ota discloses substantially all of the limitations of the instant claims as discussed. Nishi/or Ota does not expressly disclose a substrate transport system and a reticle transport system. Mori teaches an exposure apparatus having a substrate transport system and a reticle transport system (see fig.2). It would have been obvious to a skilled artisan at the time the invention was made to utilize the substrate transport system and the reticle transport system as taught by Mori into the exposure device of Nishi/or Ota for the purpose of transporting the substrate and the reticle to the substrate stage and mask stage for exposure.

9. Claims 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al (U.S.Pat. 6,414,743)/or Ota (U.S.Pat.6,485,153) in view of Umatate et al (U.S.Pat. 5,243,377).

As to claims 34-39, Nishi/or Ota discloses an exposure apparatus comprising substantially all of the limitations of the instant claims as discussed except for the exposure apparatus being communicated via a computer network such as a LAN or Internet. However, this in itself does not provide any inventive steps. For example, Umatate et al discloses a plural exposure apparatus and a host management system (H-COM), a network interface, a computer and the information relating to each of the exposure apparatuses can be communicated by a computer network (see fig.1 of Umatate et al). In view of such teachings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Nishi/or Ota with Umatate to obtain the invention as specified in the above claims. It would have been obvious to a skilled artisan to utilize a computer network as taught by

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Umatate for the exposure apparatus of Nishi/or Ota for remotely and automatically managing, analyzing, troubleshooting and maintenance the exposure apparatus.

Prior Art Made of Record

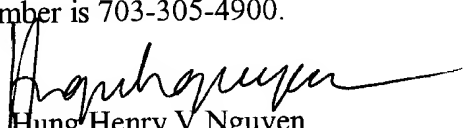
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ota (U.S.Pat. 6,406,820) and Taniguchi (U.S.Pat. 6,312,859) discloses exposure apparatus and method, each of which comprises substantially all limitations of the instant invention as recited.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Hung Henry V Nguyen
Examiner
Art Unit 2851

hvn
January 21, 2003